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MORTALITY OF FISHES IN FRESH WATER PONDS AND LAKES.

Prepared in the Division of Fishery Biology

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FISH AND WILDLIFE SERVICE

During the late spring and summer the Bureau of Fisheries frequently received complaints regarding fish mortality in ponds and lakes in various parts of the country. In many cases this condition undoubtedly is due to a lack of dissolved oxygen in the water rather than to a particular disease affecting the fish.

In late winter, especially where relatively deep water prevails, the oxygen supply is exhausted frequently. When the surface waters are warmed in the early spring, while the deeper waters remain cool, there is less circulation from top to bottom in lakes, and if the lakes are well stocked with fish suffering frequently ensues. A sympton of the lack of oxygen is manifested when the fish are gasping at the surface and are seeking shallow water.

Another period of stagnation may occur in summer, especially after periods of excessively hot, dry, and calm weather. Warm water absorbs less oxygen from the atmosphere th n cool water. The lack of rain and winds also tends to prevent circulation of the water, so that oxygen absorbed at the surface is not distributed through the lake. At such times the oxy en supply may be insufficient for the needs of the fish and suffocation may ensue.

There is no immediate remedy for this condition. The pond or lake may have a greater stock of fishes, large and small, than can survive the period of least favorable conditions, which period, with regard to the oxygen supply, is likely to occur in spring or summer. The dead fish should be removed in order that their decomposition may not lead to an increasing condition of pollution. Decaying vegetation is also injurious, although growing green plants under water are helpful in restoring the oxygen supply.

In such circumstances the decimation of the fish population seems to be one of nature's own remedies for a lack of balance between abundance of fish and available oxygen; the trouble will cease after a short time and the surviving fish, in this case, will find more favorable conditions for rapid growth. A preventative measure may be found in fishing out the larger individuals, especially those species which may be considered the least desirable.
Care must be taken, of course, not to deprive the lake of a proper quota of brood fish of the desirable species.

The fungus growth which sometimes is observed on the eyes, mouth, or other parts of some of the fish is very likely to be one of the water molds or Saprolegnias that almost invariably attack dead fish and even living ones when their vitality has been reduced by disease or other causes. It usually is an after effect and not a primary cause of disease or mortality. It has the effect, however, of accelerating and extending mortality.

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